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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/604,226	07/02/2003	Rajiv Doshi	8391430	1225

30024 7590 08/25/2006

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EXAMINER	
RHEE, JANE J	

ART UNIT	PAPER NUMBER
1745	

DATE MAILED: 08/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/604,226	DOSHI, RAJIV	
	Examiner	Art Unit	
	Jane Rhee	1745	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *6/23/2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *22-31* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *22-31* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Rejections Withdrawn

1. The 35 U.S.C. 102(b) rejection of claims 22-25 anticipated by Satake et al. has been withdrawn due to applicant's amendment filed on 6/22/2006.

2. The 35 U.S.C. 103(a) rejection of claims 26-30 over Satake et al. in view of Satake et al. (5480737) has been withdrawn due to applicant's amendment filed on 6/22/2006.

3. The 35 U.S.C. 103(a) rejection of claim 31 over Satake et al. in view of Minh has been withdrawn due to applicant's amendment filed on 6/22/2006.

New Rejection

Claim Rejections - 35 USC § 102

> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 22,23,25,27-28,31 are rejected under 35 U.S.C. 102(b) as being anticipated by Minh (5788788).

As to claim 22, Minh discloses solid oxide fuel cell comprising an anode (figure 2 number 74), a cathode (figure 2 number 82) and an electrolyte (figure 2 number 76), the anode and cathode arranged on opposite sides of the electrolyte (figure 2 number 74,82,76), at least one of the anode and the cathode having opposite exposed (figure 2 number 78) and non exposed sides, the non exposed side being flat (figure 2 opposite side of 78) and the exposed side formed with a plurality of surface depressions formed on the exposed side thereof (figure 2 number 78), extending partially through the one of the anode and cathode (figure 2 number 74,82). As to claim 23, Minh discloses that the

plurality of surface depression are formed in the exposed side of the anode (figure 2 number 74). As to claim 25, Minh discloses that the anode is substantially square (figure 2 number 74). As to claim 27, Minh discloses that the surface depressions have a depth of about 10-90% of the depth of the anode (figure 2 number 78 and 74). As to claim 28, Minh discloses that the anode has a thickness of 0.25-1mm (col. 3 line 61) as desired by applicant's claimed thickness of 0.3-2mm. As to claim 31, Minh discloses wherein the anode is comprised of a ceramic tape laminated onto the electrolyte (figure 2 number 82 cathode is the ceramic tape col. 2 lines 6-13 which is laminated onto the electrolyte number 76).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claims 24,26,29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minh in view of Satake et al. (5480737).

Minh discloses the solid oxide fuel cell described above. Minh teaches that any operable pattern for a selected fuel cell design can be embossed (col. 4 lines 8-9). Minh fail to disclose that the surface depressions comprise an array of round holes. Minh fail to disclose that the anode is substantially round. Minh fail to disclose that the surface depressions have a depth of 0.23mm.

As to claim 24,29-30, Satake et al. teaches that a maximum apparent power generation efficiency can be obtained by employing a dimple shape that satisfies H=3.2D-.5P+/-D (col. 3 lines 8-9). Therefore, the height of the depression which is also equivalent to the depth of the depressions as shown in figure 2 is a result effective variable. Satake et al. teaches that the equation above serves to determine the shape of the dimples that will optimize the basic performance of the fuel cell (col. 3 lines 11-13). Thus, it would have been obvious to one having ordinary skill in the art at the time applicant's invention was made to provide Minh with round surface depressions that have a depth of about 0.23mm in order to optimize the basic performance of the fuel cell in absence of unexpected results.

As to claim 26, it would have been an obvious matter of design choice to provide Minh with an anode that is substantially round, since such a modification would have involved a mere change in shape. A change in shape is generally recognized as being within the level of ordinary skill in the art. In re Daily 149 USPQ 47.

Response to Arguments

6. Applicant's arguments with respect to claims 22-31 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jane Rhee whose telephone number is 571-272-1499. The examiner can normally be reached on M-F 9-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jane Rhee
August 10,2006

PATRICK JOSEPH RYAN
SUPERVISORY PATENT EXAMINER